WE CLAIM

1. A novel α_2 crystalline form of Imatinib Mesylate which is stable at room temperature and even at higher temperatures like 120°C. and accelerated stress conditions, freely soluble in water and having the XRPD characteristics given below

Table I

Angle 2-Theta	d value Angstrom	Intensity % %
4.841	18.24057	33.6
10.410	8.49070	100.0
11.194	7.89775	14.2
11.856	7.45827	19.9
12.881	6.86709	6.8
13.819	6.40328	12.9
14.860	5.95663	67.7
16.439	5.38788	32.4
17.049	5.19665	5.6
17.623	5.02870	58.6
18.052	4.91000	61.6
18.567	4.77491	98.8
19.032	4.65925	70.2
19.772	4.48657	15.3
21.236	4.18055	60.8
21.582	4.11431	59.4
22.594	3.93217	19.7
23.137	3.84112	21.8
23.696	3.75172	25.0
24.851	3.57993	58.6
26.250	3.39226	9.1
27.341	3.25932	18.7
28.475	3.13204	42.4
31.896	2.80347	9.0
32.533	2.75005	6.6
43.447	2.08117	6.4

2. A process for the preparation of a novel α_2 crystalline form of Imatinib Mesylate comprises suspending Imatinib base in isopropanol and adding methane sulfonic acid at room temperature and maintaining the reaction mixture at a temperature in the range of 40-80°C, for a period in the range of 20-30 minutes, cooling and filtering to obtain the α_2 crystal form.

3. A process for the preparation of a novel, stable α_2 crystalline form of Imatinib Mesylate which comprises suspending β polymorphic form Imatinib Mesylate in water and organic solvents like methanol, Isopropyl ether,toluene, cyclohexane and Isopropyl alcohol ,distilling off water azeotropically and, cooling filtering to obtain the α_2 crystal form.

4. A pharmaceutical composition containing novel α_2 crystalline form of Imatinib Mesylate which is stable at room temperature and even at higher temperatures like 120°C. and accelerated stress conditions, freely soluble in water and having the characteristics given in the Table 1 shown in claim1 along with the usual exepients useful for the treatment of chronic myelogenous leukemia.

5. A pharmaceutical composition as claimed in claim 1 wherein the active ingredient used ranges from 45% to 60%.

6. A pharmaceutical composition as claimed in claims 6 & 7 wherein the excipients used is selected from microcrystalline cellulose, lactose, crosperidone XL, colloidal silicone dioxide, magnesium stearate and talc or their mixtures .

7. An improved process for the preparation of Imatinib mesylate β polymorphic form which comprises suspending Imatinib base in a solvent selected from acetone, acetonitrile, mixture of methanol and isopropanol and mixture of isopropanol and water and adding methane sulfonic acid to the resulting solution at room temperature and maintaining the solution at the reflux temperature of the solvent (or) at room temperature and filtering the β-crystal form.